

Starting Formulation

SF 1823

Gloss White Enamel for Maximum Solvent and Abrasion Resistance EPI-REZ™ Resin 3520-WY-55 and 3546-WY-53 / EPIKURE™ Curing Agent 8290-Y-60

Suggested Uses General use primer for metal

Features Formulated for improved solvent and abrasion resistance

Formula	Material	Supplier	Pounds	Gallons
Part A				
	EPI-REZ Resin 3520-WY-55	Hexion	333.4	36.64
	EPI-REZ Resin 3546-WY-53	Hexion	100.4	11.03
	CYCLO SOL™ 150	Shell Chemical Co.	22.2	3.00
	EKTASOLV™ EP, 2-propoxyethanol	Eastman Chemical Products, Inc.	22.7	3.00
	DI Water		<u>108.6</u>	<u>13.00</u>
		Total Part A	587.3	66.67
Part B				
	EPIKURE Curing Agent 8290-Y-60	Hexion	135.1	15.30
	DEE-FO™ PI-4 Concentrate Defoamer	Münzing Inc.	4.0	0.47
	TI-PURE™ R-960 titanium dioxide OR KRONOS™ 2160	Du Pont Co. Kronos, Inc.	250.0	7.74
	DI Water		12.5	1.50
		<i>High Speed disperse to Hegman 8.</i>		
	DI Water		66.4	7.95
	Glacial acetic acid		<u>3.2</u>	<u>0.37</u>
		Total Part B	471.2	33.33
		Total Part A & B	1058.5	100.0

Mixing Instructions

	Pounds	Gallons
Part A	587.3	66.67
Part B	<u>471.2</u>	<u>33.33</u>

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Part A + B	1058.5	100.0
Resin Composition		
	<u>Units</u>	<u>Value</u>
Part A	% solids	74.5
Part B	% solids	<u>25.5</u>
Part A + B	% solids	100.0

Typical Formulation Table 1 / Formulation Properties Properties

	<u>Units</u>	<u>Value</u>
Mix Ratio, Part A : Part B	By volume	2 :1
Total weight solids	%	53.9
Total volume solids	%	39.4
Pigment volume concentration (PVC)	%	19.7
Volatile Organic Compound (VOC)	lb/gal	2.50
	g/L	300
Induction Time	min.	30
Cure Schedule at 77 °F (25 °C) at 55% relative humidity.	days	14
Viscosity @ 25°C		
Part A + B	KU	70

Coatings Performance Comparison To determine if a blend of EPI-REZ Resin 3520-WY-55 and EPI-REZ Resin 3546-WY-53 (77% to 23% w/w blend of dispersion as supplied) could be substituted on a pound for pound basis for an EPI-REZ Resin 5522-WY-55 dispersion in this application, we compared the performance of this starting formulation with that of Starting Formulation No. 1803.

Starting Formulation No. 1803 is a gloss white enamel based on EPI-REZ Resin 5522-WY-55 and EPIKURE Curing Agent 8290-Y-60 that was designed for maximum solvent and abrasion resistance.

The results of this performance comparison between Starting Formulations 1823 and 1803 are shown on the next page.

Typical Film Table 2 / Film Performance Properties Properties

			<u>SF 1803</u>	<u>SF 1823</u>
	<u>ASTM Method</u>	<u>Units</u>	<u>Value</u>	<u>Value</u>
Film thickness	D 1186	mils	1.7-1.8	1.9-2.0
24 hr. pencil hardness	D 3363		B	2B
7 day pencil hardness			H	H
Set to touch dry	D 5895-B	hrs.	0.5	0.8
Cotton-free dry		hrs.	4.5	4.5
Thru-dry		hrs.	6.0	5.5

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Adhesion	D 3359-A		5A	5A
MEK double-rubs	D 4752		>200	>200
Impact resistance Direct/Reverse	D 2794	in.-lbs.	76/52	120/144
Distilled water immersion at 60 °C	D 870		2MD-4D	2MD-4D
Salt spray resistance	B-117		6M	8MD
			5 mm creep	6 mm creep
Prohesion resistance (<i>Expose coated panels to salt spray of 0.35%wt ammonium sulfate and 0.05%wt sodium chloride at 35 °C for one hour and then dry at 40 °C for 1 hour.</i>)			10	8F
			12 mm creep	7 mm creep
			CLOA*	Good adhesion

* "CLOA" is the abbreviation for "Complete Loss of Adhesion" after drying out

Storage Recommendations regarding storage conditions can be obtained by visiting our web site at www.hexion.com

General Information

These are starting formulations and are not proven in the user's particular application but are simply meant to demonstrate the efficacy of the products and to assist in the development of the user's own formulation. It is the user's responsibility to fully-test and qualify the formulation, along with the ingredients, methods, applications or equipment identified herein ("Information"), by the user's knowledgeable formulator or scientist, and to determine the appropriate use conditions and legal restrictions, prior to use of any Information.

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for information on Hexion Inc. ("Hexion") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and MSDSs on non-Hexion products should be obtained from the respective manufacturer.

Contact Information

For product prices, availability, or order placement, please contact customer service:

www.hexion.com/Contacts/

For literature and technical assistance, visit our website at www.hexion.com

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